



Chapter One

INVENTORY

INVENTORY



The first step in the preparation of the airport master plan for Ajo Municipal Airport is the collection of information relating to both the airport and the area which the airport serves. The collected information assembled in this chapter will be used in subsequent analyses in this study. Airport information relating to existing airport facilities, regional airspace, and air traffic control is collected along with pertinent background information regarding Ajo and the surrounding region. This includes information regarding the airport's role in county, state, and national aviation systems, as well as the area's socioeconomic profile.

The information outlined in this chapter provides a foundation, or starting point, for all subsequent chapters. Thus, an accurate and complete inventory is essential to the success of the master plan. This is particularly important since the findings, conclusions and recommendations made in the plan are dependent upon information collected. This information was obtained through on-site investigations of the airport and interviews with airport staff, airport tenants, representatives of

various local and County entities, and regional economic development agencies. Additional information was obtained from documents provided by the Federal Aviation Administration (FAA), the Arizona Department of Transportation - Aeronautics Division (ADOT), and the Pima County Department of Transportation (PDOT), Real Property Division.

REGIONAL SETTING

Situated on 1,375 acres at an elevation of 1,458 feet, Ajo Municipal Airport lies six miles north of the unincorporated community of Ajo and just east of and adjacent to State Highway (SH) 85. SH 85 is a two-lane highway that stretches from the town of Buckeye in western Maricopa County south through Gila Bend then continues further south into Pima County terminating in the town of Ajo.

Ajo, with a population of 3,417, is located in western Pima County, on SH 85, 10 miles northwest of the junction with SH 86 and 42 miles south of Interstate 8. The town is

centered around a date palm tree-lined plaza flanked by Spanish mission churches and other Southwestern-style buildings. Known as the birthplace of copper mining in Arizona, Ajo's history dates back hundreds of years. Indians, Spaniards, and Americans have all mined minerals from Ajo's rich ore deposits. Today, according to the Arizona Chamber of Commerce, it is a popular tourist destination and retirement area affording a relatively inexpensive lifestyle. Ajo serves as a gateway to Mexico, 40 miles to the south, as well as Organ Pipe National Monument, and the Tohono O'odham (Papago) Indian Reservation. At an elevation of 1,798 feet, Ajo is surrounded by mountains and high Sonoran desert, and offers a variety of native plant life and desert vistas.

Currently, Ajo Municipal Airport with an Airport Reference Code (ARC) of B-I, serves mostly the general aviation needs of the immediate area. With the rising interest of local general aviation pilots, and the planned reopening of the Phelps Dodge mine in 1999-2000, the Airport is at a key point in determining and defining its future role in the development of the surrounding region. The **Location Map, Exhibit 1A**, depicts the Airport in its regional setting.

THE AIRPORT'S SYSTEM ROLE

Airport planning exists at several levels from local or regional to state to national. Each level has its own emphasis and purpose. The airport master plan provides planning from the local/regional level, Ajo Municipal Airport is part of the Pima Association of Governments (PAG) Regional Aviation System, and at the state level the airport is included in the

Arizona State Aviation System Plan (SASP). The purpose of the *SASP* is to ensure that Arizona has an adequate and efficient airport system that will serve its aviation needs well into the next century. The *SASP* defines each airport's specific role in the State aviation system and establishes funding requirements. Through the *State's Continuous Aviation System Planning Process (CASPP)*, the *SASP* is updated every five years. The most recent update was the *1995 Arizona State Aviation Needs Study (SANS)*. The mission of the *SANS* is to provide policy guidelines that promote and maintain a safe aviation system in Arizona, assess the State's airports capital improvement needs, and identify resources and strategies to implement the plan. The Arizona *SANS* for 1995 encompasses all public and private airports and heliports that are open to the public, including American Indian and recreational airports.

On the national level, the Airport is included in the *National Plan of Integrated Airport Systems (NPIAS)*. This includes more than 3,200 airports that are important to the national air transportation system. Ajo Municipal Airport is classified in the *NPIAS* as a general aviation airport. The 2,450 general aviation airports within the *NPIAS* have an average of 28 based aircraft and account for 35 percent of the nation's general aviation fleet. Six additional airport types are included in the *NPIAS*, and account for 56 percent of all GA aircraft, while the remaining 9 percent are based at airports or landing sites that are not part of the *NPIAS*. General aviation airports are the most convenient form of air transportation for nearly 19 percent of the population and are of particular importance to rural areas. The *NPIAS* includes total estimates on development needs for the nation's airports that qualify for federal funding assistance.

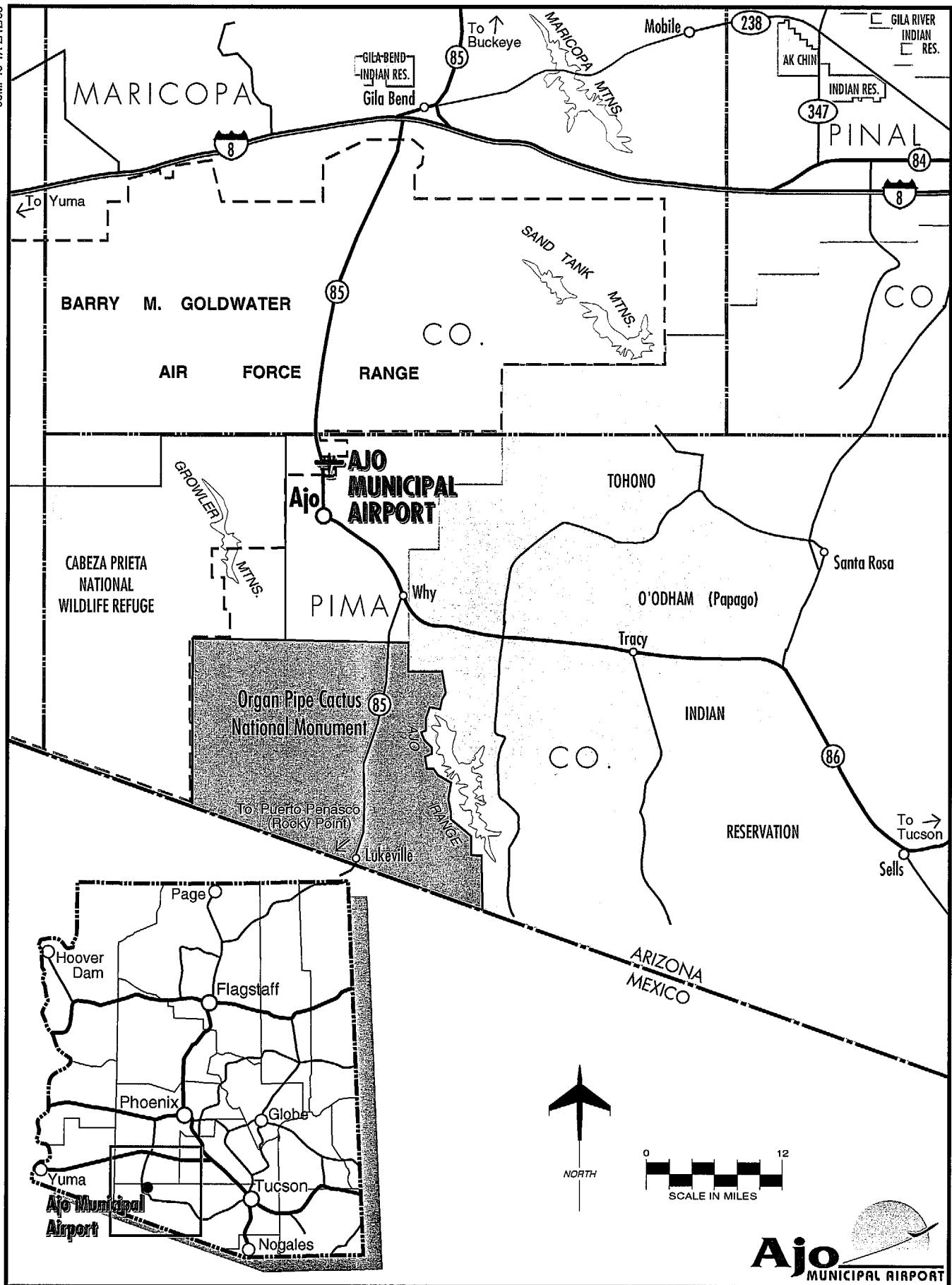


Exhibit 1A
LOCATION MAP

PREVIOUS MASTER PLAN

Though there is no previous, comprehensive, airport master plan for Ajo Municipal Airport, an Airport Layout Plan Update was completed in November 1988. Also done at this time was an Airport Land Use Plan showing compatible land uses on and around the airport. Other than a 2-inch asphalt runway overlay completed in March of 1997, no major upgrades to either airside or landside facilities have been carried out in the period since 1988.

HISTORICAL PERSPECTIVE

Ajo Municipal Airport began as Ajo Army Air Field during World War II. Throughout the war it served as a flying and fixed gunnery training facility for American fighter pilots. Between 1942 and 1946, jurisdiction of the base fluctuated between Williams Field and Luke Field, two larger Army Air Fields located near Phoenix. The Air Field remained a sub-base of Williams Field until 1949 when it was acquired by Pima County through quitclaim deed from the U.S. government. The original base layout, including runway configuration as well as building pads and access roads, is still visible from the air today. Of the three original runways only the northwest/southeast runway remains active. The Air Field included approximately 85,000 square yards of aircraft parking apron, of which only a small portion is currently used. During its peak wartime operations, the base had 117 buildings, of which all but those used for the neighboring golf course clubhouse

were removed. Utility systems such as water, sewer, and electrical were initially left in place, however, little is known as to their present existence, condition and location.

Presently, Ajo Municipal Airport is owned, operated and maintained by the Pima County Department of Transportation, Real Property Division. Airport management is conducted off-site at the Department of Real Property offices in downtown Tucson. The airport manager is the only permanent employee assigned to the airport and conducts administration duties from these offices. Airport maintenance operations are presently performed by Pima County Department of Transportation personnel.

AIR TRAFFIC ACTIVITY

At general aviation airports, the number of based aircraft and total annual operations (takeoffs and landings) are the main indicators of aeronautical activity. Presently, there are no formal procedures for gathering air traffic statistics at Ajo Municipal Airport. The based aircraft and operations summary statistics presented in **Table 1A**, therefore, are estimates. This data was obtained from both ADOT and the Pima Association of Governments technical reports. Current Airport records show 4 single-engine piston aircraft based at Ajo Municipal Airport. A list of based aircraft, including "N" number, type, model, and status, is provided in **Appendix C**.

TABLE 1A
Historical Based Aircraft and
Operations Estimates

Year	Based Aircraft	Annual Operations
1983 ¹	4	1,000
1990 ²	3	4,824
1993 ³	8	1,800
1997 ⁴	4	1,500

¹ *Arizona Aviation Needs Study*, ADOT, Aeronautics Division, August 1985
² *Aviation Needs Technical Report*, ADOT, July 1990
³ *Summary Report, Pima Association of Governments' Regional Aviation System Plan Update*, PAG, February 1995
⁴ *Ajo Municipal Airport*, December 1997

AIRPORT FACILITIES

Airport facilities can be divided into two broad categories: airside and landside. The airside category includes those facilities directly affecting aircraft operations. Landside facilities are those facilities that provide the transition between ground and air transportation.

AIRSIDE FACILITIES

Airside facilities at Ajo Municipal Airport include runways, taxiways, airport lighting systems, and navigational aids. The existing facilities, both airside and landside, are depicted on **Exhibit 1B**.

Runway

Ajo Municipal Airport is served by a single,

asphalt-paved runway. Runway 12-30 is 3,800 feet long by 60 feet in width, and is in excellent condition. According to the *1995 State Aviation Needs Study (SANS)*, this runway is strength-rated at 12,000 pounds for single wheel loading (SWL). Single wheel loading refers to aircraft landing gear design that incorporates a single wheel on each main landing gear strut. As previously noted, the runway received a 2-inch asphalt overlay in March of 1997. Runway 12 has a 1,400-foot stopway and Runway 30 a 1,065-foot stopway, these asphalt and gravel stopways are broken up and have brush growing on them as well. A summary of the data concerning Runway 12-30 is presented in **Table 1B**.

The two remaining original dirt runways are closed and heavily overgrown with desert brush on the southwest side of Runway 12-30, but have been cleared of overgrowth on the northeast side.

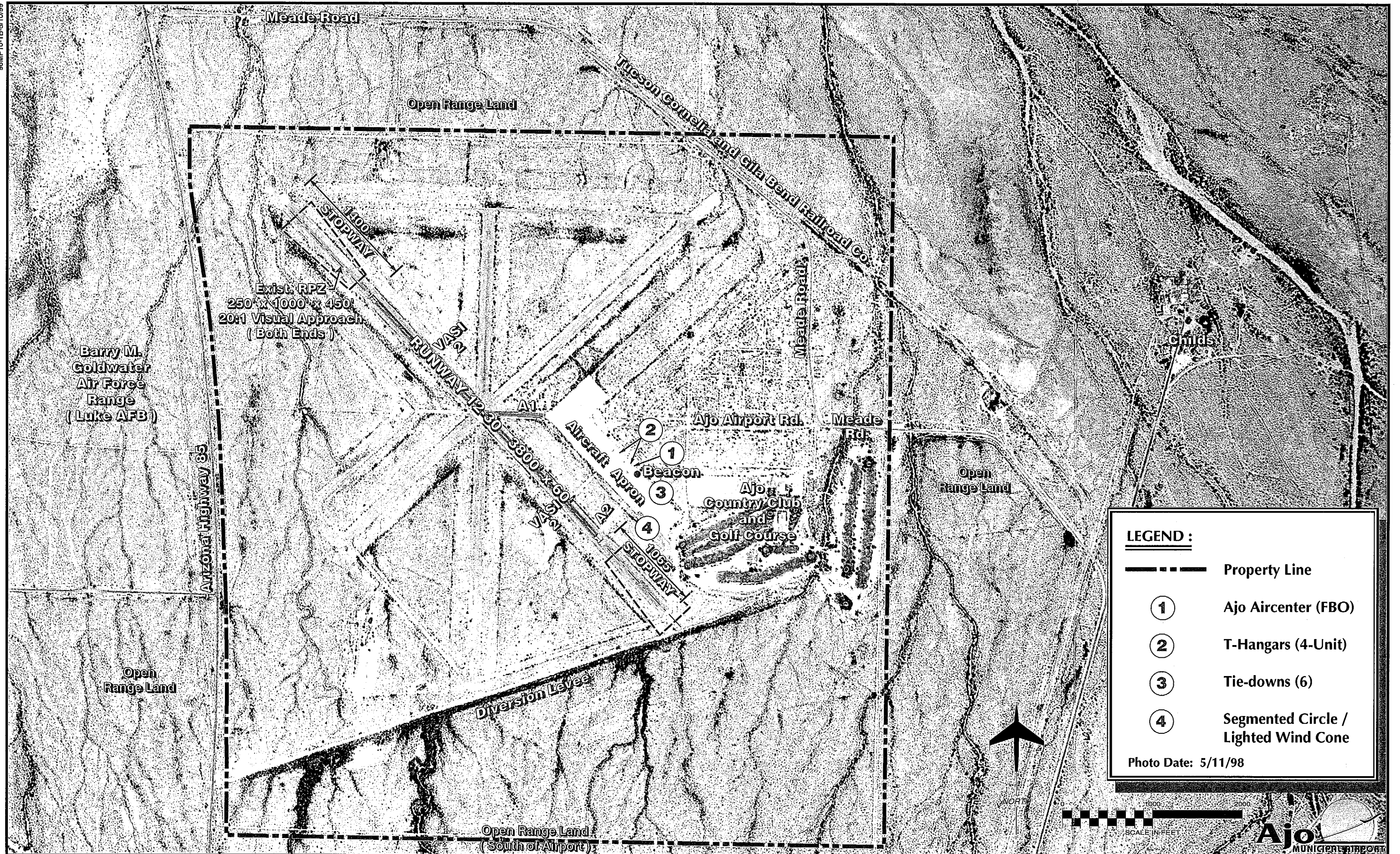


TABLE 1B
Runway Data - Runway 12-30
Ajo Municipal Airport

Length (feet)	3,800
Width (feet)	60
Surface Material (Condition)	Asphalt (Good)
Pavement Strength (lbs.)	12,000 (SWL)
Effective Gradient	0.868
Edge Lighting	MIRL
Visual Aids	VASI-2/VASI-2
Markings (Condition)	Basic/Basic (Good)

Taxiways

Taxiways facilitate aircraft movement between the runway and the aircraft parking or storage areas. There are two exit taxiways at Ajo Municipal Airport: one at midfield and one at the approach end of Runway 30. The midfield taxiway is 40-foot wide, paved and in excellent condition, while the 35-foot wide exit taxiway at Runway 30 is dirt and in fair condition.

The original perimeter taxiway system still exists, but is closed to aircraft use and is used mainly as a perimeter road for ground-based vehicular access.

Airfield Lighting and Pavement Markings

Airfield lighting and pavement markings are essential elements to efficient and safe aircraft operations at an airport. Lighting aids enable nighttime, and poor visibility operations at an airport, while pavement markings assist in aircraft movement. The lighting systems and

pavement markings existing at Ajo Municipal Airport are described in the following sections.

Identification Lighting: The location and presence of an airport at night is indicated by the rotating airport beacon. The airport beacon at Ajo Municipal Airport is mounted atop the T-hanger unit that is farthest south on the aircraft parking apron. This rotating beacon is equipped with an optical system that alternately projects two beams of light, one green and one white, 180 degrees apart.

Visual Approach Lighting: Each end of Runway 12-30 is equipped with Visual Approach Slope Indicators (VASI-2). A VASI is a system of colored lights installed near the runway end to provide visual descent guidance information to the pilot during approach to the runway. These light systems are placed on the left side of the runway perpendicular to the runway centerline. The lights at the Airport are pilot activated by radio frequency and produce a signal presentation that indicates to the pilot whether they are above, below or on the designed

descent path to the runway. Currently, both VASI's at the Airport are operable.

Runway Lighting: Runway 12-30 is equipped with low intensity runway lighting (LIRL). LIRL's are runway edge lights that provide an outline of the runway for nighttime operation and during periods of low visibility. These lights are essential to safe operations during these periods. The LIRL's are preset to low intensity; however, pilots can increase the intensity of these lights by radio over CTAF (Common Traffic Advisory Frequency) frequency 122.9. The County hopes to have the LIRLs on full pilot-control by late Spring 1999. Runway threshold lights are also installed at each runway end.

Taxiway Lighting: Taxiway lights provide safe operating conditions for aircraft ground movement at night and during periods of low visibility. At present, there are no taxiway lighting systems at Ajo Municipal Airport.

Other Lighting: A lighted wind cone with a segmented circle is located near the approach end of Runway 30 between the apron and the runway. Pilots use the wind cone to determine surface wind direction and approximate speed prior to takeoffs and landings.

Pavement Markings: Pavement markings, both on the runways and taxiways assist in aircraft movement at the airport. The basic markings of Runway 12-30 indicate runway centerline and designation, and these markings are in excellent condition having been applied at the time of the March 1997 runway overlay. Additionally, chevron-shaped markings identify the runway stopways at each runway end, although overgrowth and pavement deterioration all but obscure these markings except from the air. The midfield taxiway is

currently marked with both centerline and edge striping.

Navigational Aids

Navigational Aids are electronic devices that provide point-to-point guidance and position data to aircraft in flight. Located on or near the airport, navigational aids can be classified as either enroute or terminal area navigational aids.

Enroute Navigational Aids: These ground-based electronic devices are used by pilots when flying from one airport to another.

Currently, the three types of electronic navigational aids available to aircraft enroute to Ajo Municipal Airport include the Very High Frequency Omnidirectional Range (VOR) facility, Loran-C, and the Global Positioning System (GPS).

The most common enroute navaid, the VOR, transmits a radio signal every degree to provide 360 individual navigational courses. Often, the VOR is combined with Distance Measuring Equipment (DME) which provides both distance and direction information to pilots. Civilian VORs and military tactical air navigation aids (TACANs) are commonly combined to form a VORTAC. These VORTACs provide distance and direction information to both civilian and military pilots. The Gila Bend VORTAC, the closest facility, is 32 nautical miles northeast of the Airport at Gila Bend Municipal Airport. Other regional VORTACs that can be used by pilots navigating to or from Ajo Municipal Airport is the Tucson VORTAC, located 101 nautical miles to the southeast at Tucson International Airport, and the Stanfield VORTAC, 55

nautical miles northeast near the City of Casa Grande.

Loran-C is a ground-based enroute navigational aid which utilizes a system of transmitters located in various locations across the continental United States. LORAN-C varies from the VOR as pilots and aircraft are not required to navigate using a specific facility (with the VOR, pilots must navigate to and from a specific VOR facility). With properly equipped aircraft, pilots using Loran-C can directly navigate to any airport in the United States.

GPS is an additional enroute navigational aid for pilots enroute to the airport. GPS was initially developed by the United States Department of Defense for military navigation around the world. Increasingly, over the last few years, GPS has been utilized more in civilian aircraft. GPS uses satellites placed in a fixed orbit around the globe to transmit electronic signals which properly equipped aircraft use to determine altitude, speed, and navigational information. GPS is similar to Loran-C in that pilots do not have to navigate to or from a specific navigational facility. GPS provides the greatest level of accuracy of all enroute navigational aids.

The FAA is proceeding with a program to gradually replace all traditional enroute navigational aids with GPS over the next decade. The FAA phase-out schedule for traditional navigational aids includes VOR's between 2005 and 2010, NDB's between 2000 and 2005, and Loran-C by the year 2000.

Instrument Approach Procedures

Instrument approach procedures are a series of predetermined maneuvers established by the

FAA using electronic navigational aids that assist pilots in locating an airport during low visibility and cloud ceiling conditions. Currently, Ajo Municipal Airport has no instrument approach procedures. Essentially, the airport is closed to arrivals when weather conditions deteriorate to a point where visual flight is no longer possible.

The FAA is proceeding with an aggressive program to establish 500 new instrument approaches each year at airports across the nation using GPS. Since GPS does not require expensive ground-based equipment for the transmission of electronic navigational signals, GPS instrument approaches can be developed to almost every airport and at a low cost. The facility needs evaluation (Chapter 3) will examine the various requirements for establishing GPS instrument approaches at the airport.

Terminal Area Navigational Aids:

Currently, there are no ground-based nav aids or radio facilities available at Ajo Municipal Airport. Pilots landing or taking off must transmit over CTAF 122.9 to alert other area aircraft of their location and intentions.

Regional Airspace

The FAA has established an airspace structure to regulate and develop procedures for aircraft operating within U.S. Airspace. These procedures and regulations help to ensure a safe and efficient airspace environment for all categories of aviation. The U.S. airspace structure provides for two basic categories of airspace, controlled and uncontrolled, and identifies them as Classes A, B, C, D, E, and G. **Exhibit 1C**, illustrates these airspace classifications.

Class A airspace is controlled airspace and includes all airspace from 18,000 feet mean sea level (MSL) to Flight Level 600 (approximately 60,000 feet MSL). Class B airspace is controlled airspace surrounding high activity commercial service airports (i.e. Phoenix Sky Harbor International Airport). Class C airspace is controlled airspace surrounding lower activity commercial service (Tucson International Airport) and some military airports (Davis-Monthan Air Force Base). Class D airspace is controlled airspace surrounding airports with an air traffic control tower. All aircraft operating within Class A, B, C, and D airspace must be in contact with the air traffic control facility responsible for the particular airspace. Class E airspace is controlled airspace that encompasses all instrument approach procedures and low altitude federal airways. Only aircraft conducting instrument flights are required to be in contact with air traffic control when operating in Class E airspace. While aircraft conducting visual flights in Class E airspace are not required to be in radio communication with air traffic control facilities, visual flight can only be conducted if minimum visibility and cloud ceilings exist. Class G is uncontrolled airspace.

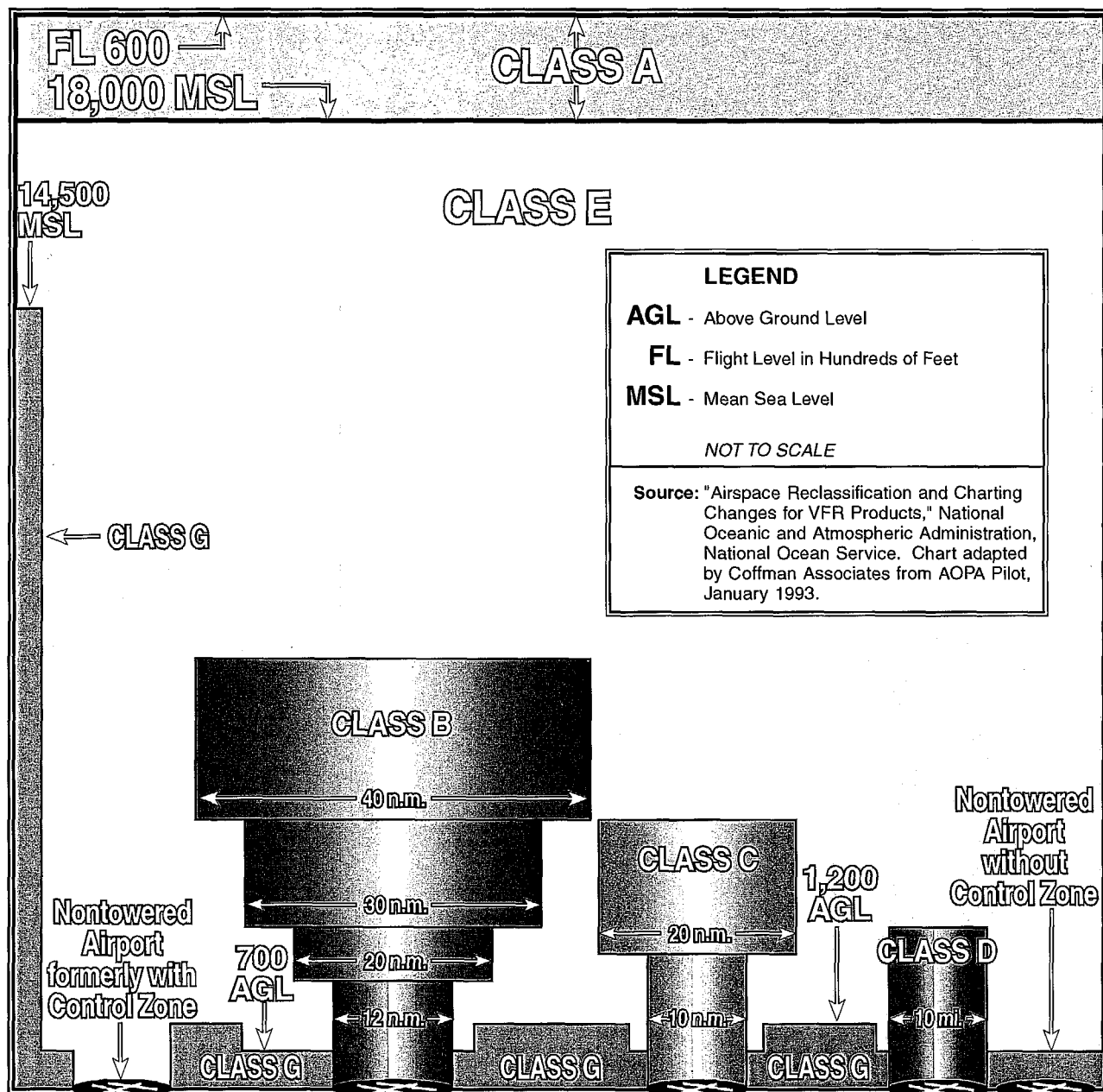
Exhibit 1D, illustrates the airspace surrounding the Airport. The airspace in the vicinity of Ajo Municipal Airport is heavily influenced by military jet activity.







The Airport itself is within the Sells MOA and the Sells Low MOA. A MOA (Military Operations Area) is a designated special-use airspace area designed to separate military and civilian aircraft operations. Military operations within these layered MOA's are conducted Monday through Friday between 6:00 a.m. and 7:00 p.m. at altitudes above 10,000 feet

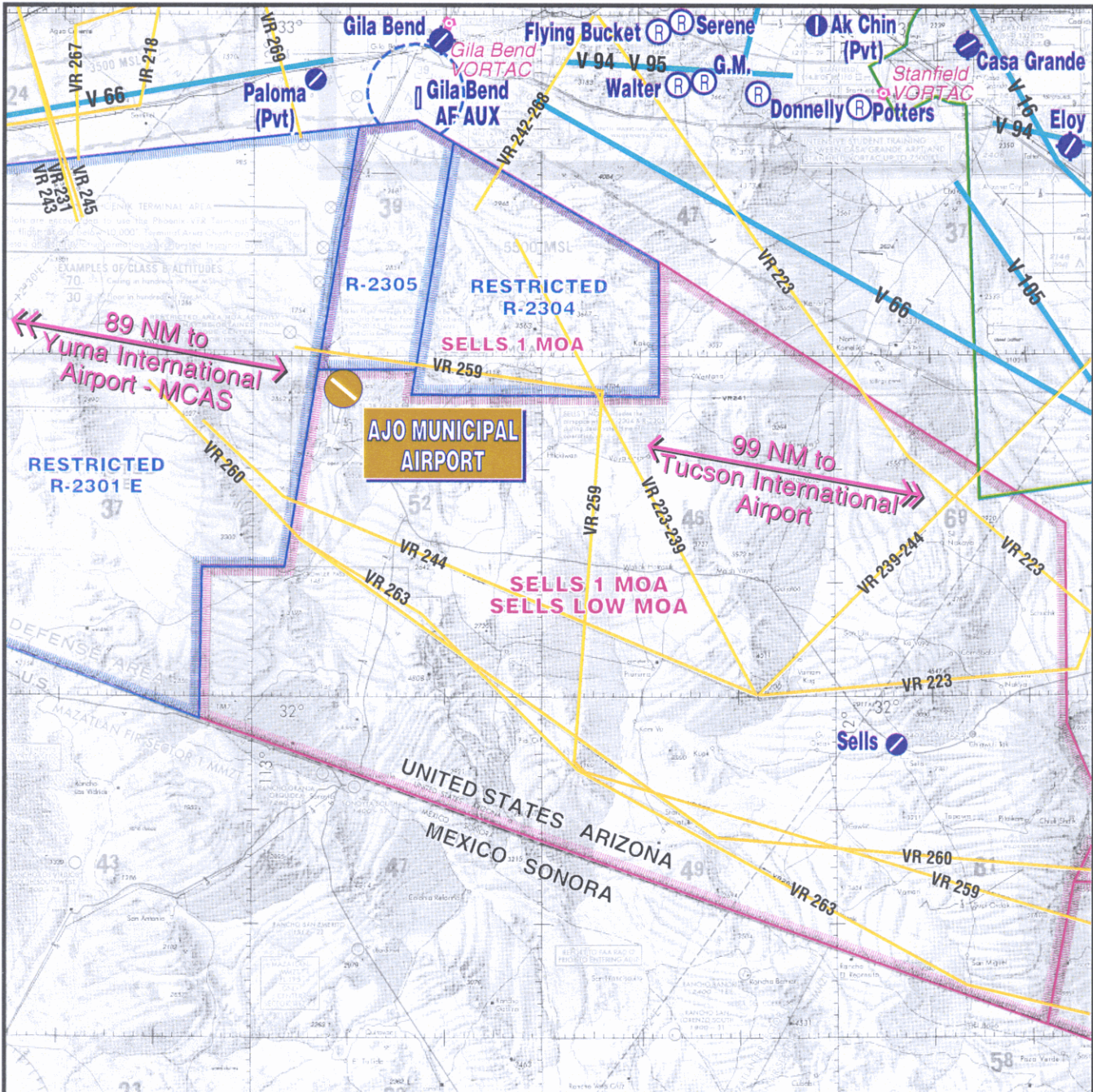
for the Sells 1 MOA, and from 3,000 feet above ground level (AGL) to the Sells 1 floor (i.e., 10,000 feet) for the Sells Low MOA. Civilian operations within a MOA are not prohibited; however, civilian aircraft are cautioned to remain alert for military aircraft while operating in the MOA. Bordering the MOA's, is another type of special use airspace known as Restricted Area Airspace. One such area, R-2305 is just north of the Airport, while to the northeast is R-2304, and to the west are areas R-2301E and R-2301W. Military operations times and altitudes for these areas are as follows: R-2305, 7 a.m.-11 p.m. daily, up to 24,000 feet; R-2304, 7 a.m.-10a.m. daily, up to 24,000 feet; R-2301E, 6:30 a.m.-11:30 p.m., Mon-Fri, up to 80,000 feet, and R-2301W, with continuous operations up to 80,000 feet. Again, though civilian operations are not prohibited, civilian aircraft are restricted during periods of military jet activity and within the defined altitudes.

The Cabeza Prieta National Wildlife Refuge, located approximately 3.5 miles west of the Airport lies within the restricted airspace area R-2301E. The Organ Pipe National Monument is located approximately 20 miles to the south, within the Sells 1 MOA/Sells Low MOA. The previously described military restrictions apply for overflights in these two areas; however, when these military areas are inactive, civilian aircraft are requested to maintain a minimum altitude of 2,000 feet AGL, per FAA regulations governing lands controlled by the National Park Service, U.S. Fish and Wildlife, and U.S. Forest Service .

The Airport uses the standard left-hand traffic pattern. Procedures regarding local arrivals and departures are coordinated with Range Operations at Luke Air Force Base.



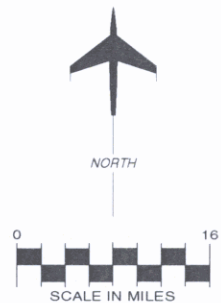
NEW CLASSIFICATION	OLD CLASSIFICATION
 CLASS A	Positive Control Area, Continental Control Area (part)
 CLASS B	Terminal Control Area (TCA)
 CLASS C	Airport Radar Service Area (ARSA)
 CLASS D	Control Zone with Tower, Airport Traffic Area
 CLASS E	Continental Control Area (part), Transition Areas, Control Zones without Tower
 CLASS G	Uncontrolled Airspace



LEGEND

- Hard-surfaced runways 1500 ft. to 8069 ft.
- Hard-surfaced runways greater than 8069 ft. or some multiple runways less than 8069 ft.
- Private
- Services Available
- VORTAC
- Victor Airways
- Military Training Routes

- Restricted Area Airspace
- Military Operations Area (MOA)
- Class D Airspace
- Class E Airspace with floor 700 ft. above surface



Air Traffic Control

The FAA has established 21 Air Route Traffic Control Centers (ARTCC) covering the continental United States for the control of aircraft operating under Instrument Flight Rules (IFR) within controlled airspace and while in the enroute phase of flight. An ARTCC assigns specific flight routes and altitudes along federal airways to maintain aircraft separation and orderly air traffic flow. These centers employ radio communication and long range radar with automatic tracking capability to provide enroute air traffic services. The ARTCC typically splits its airspace into two sectors, assigning a controller or team of controllers to each sector. As an aircraft travels through the ARTCC, one hands control off to the other. Each sector uses discrete radio frequencies to guide the aircraft through its control sector.

All aircraft operating under IFR and those participating VFR aircraft transecting the airspace that encompasses Ajo and the surrounding airspace are under the control of the Albuquerque ARTCC.

Area Airports

Within 100 hundred nautical miles of Ajo Municipal Airport are four significant public airports and one Air Force auxiliary field. The largest public airport is Tucson International Airport which is 99 nautical miles to the east. The closest public airport is Gila Bend Municipal Airport, 35 nautical miles north, while Ryan Field is 87 nautical miles to the east, and Yuma International Airport-MCAS is located 89 nautical miles to the west. The Air Force auxiliary field is Gila Bend AF Auxiliary located 5 nautical miles south of Gila Bend Municipal Airport and 30 nautical

miles north of Ajo Municipal Airport. In addition, Sells Airport, 57 nautical miles east-southeast of Ajo Municipal Airport on the Tohono O'odham (Papago) Indian Reservation is used primarily by U.S. government agencies. Historical based aircraft and operations data for the following airports were obtained from the *1995 State Aviation Needs Study (SANS)*.

Tucson International Airport serves the air carrier needs as wells as a large portion of the general aviation needs of Pima County. Runway 11L-29R is 10,994 feet long by 150 feet wide with a strength rating of 585,000 pounds double-dual tandem (DDT). Runway 11R-29L is 9,117 feet long by 75 feet wide, and is rated at 220,000 pounds dual tandem (DT). Crosswind Runway 3-21 is 7,000 feet long by 150 feet wide with a rating of 500,000 pounds double-dual tandem (DDT). These three runways are capable of handling all types of commercial and general aviation aircraft in nearly all weather conditions. General Aviation (GA) operations for 1995 were 71,000, with based GA aircraft numbers totaling 355.

Ryan Airfield is situated in unincorporated Pima County 10 miles southwest of Tucson. Approximately 12 nautical miles west of Tucson International Airport, Ryan Airfield is served by three runways, two parallel asphalt-paved runways and a single dirt runway. Runway 6R-24L, 5500 feet long by 75 feet wide is the main runway. The other paved runway, Runway 6L-24R, is 4900 feet long by 75 feet wide. Each of these runways has a strength rating of 30,000 pounds dual wheel and can accommodate a wide variety of aircraft. Runway 15-33, the dirt runway is 3547 feet long by 75 feet wide, with an estimated strength rating of 12,500 single wheel (SW) under normal, dry conditions.

Ryan Airfield serves the general aviation needs for the southern Tucson Metropolitan area. The *1995 State Aviation Needs Study (SANS)* lists 205 based aircraft and approximately 41,000 general aviation operations at Ryan Airfield.

Gila Bend Municipal Airport is located north of Ajo in southwestern Maricopa County. The Airport's single lighted runway, Runway 4-22 is 5,200 feet long by 75 feet wide, and is constructed of asphalt with a 12,500 single-wheel (SW) loading rating. In 1995, there were 10 based aircraft and approximately 12,800 operations at Gila Bend Municipal Airport.

Yuma International Airport-MCAS (Marine Corps Air Station) is a joint-use facility located in the far southwest corner of the State in the City of Yuma. There are four runways available for use at the Airport. Runways 3L-21R and 3R-21L parallel each other, and are used primarily by military aircraft operating out of Yuma-MCAS. Runways 17-35 and 8-26 serve mostly civilian operations. Though used only on a limited basis, at 13,299 feet by 200 feet wide, Runway 3L-21R is the longest runway available for civilian use in Arizona. This runway is constructed of concrete, and has pavement strength-ratings of 103,000 pounds single wheel (SW), 200,000 pounds dual wheel (DW) loading, and 400,000 pounds dual-tandem (DT) wheel loading. Runway 3R-21L, is the main departure runway for military jet traffic. This runway's dimensions are 9,240 feet long by 150 feet wide. Runway 3R-21L has a wheel loading capacity of 200,000 (SW) and 345,000 pounds (DW). Runway 8-26, the primary civilian runway, is 6,150 feet long and 150 feet wide. Runway 8-26 has a wheel loading capacity of 63,000 pounds single wheel (SW) 137,000 pounds dual wheel (DW), and 206,000 (DT). The fourth runway,

Runway 17-35, the crosswind runway is 5,710 feet long by 150 feet wide. Runway 17-35 has a wheel loading capacity of 95,000 pounds (SW) and 171,000 (DW). According to statistics provided by the Yuma-MCAS airport traffic control tower (ATCT), total operations for 1995 were 133,904 with 27,091 of these being general aviation operations. The *1995 State Aviation Needs Study (SANS)* lists total based general aviation aircraft for Yuma International-MCAS at 130.

Gila Bend Air Force Auxiliary serves as an auxiliary field to Luke Air Force Base which is located further north near Glendale, Arizona. According to the *1995 SANS*, military operations for Luke Air Force Base were listed at 299,000. There were no operations statistics available for Gila Bend AF Auxiliary at the time of this report.

Sells Airport, on the Tohono O'odham (Papago) Indian Reservation, has a single runway which is 5,830 feet long by 75 feet wide. Runway 4-22 is constructed of asphalt and has a strength-rating of 12,500 single wheel (SW) loading. As mentioned previously, Sells Airport is used primarily by U.S. Government Agencies, though the *1995 SANS* does list one based aircraft and 200 annual operations.

In addition, military aircraft using the Barry M. Goldwater Air Force Range which is located directly northwest of Ajo Municipal Airport do affect operations at and around the Airport. The regional relationship of Ajo Municipal Airport with the above airports as well as the Barry M. Goldwater Air Force Range is shown on **Exhibit 1D**.

LANDSIDE FACILITIES

Landside facilities comprise those facilities

that accommodate pilots, passengers and aircraft at an airport. Landside facilities at Ajo Municipal Airport include one fixed base operator (FBO), aircraft hangars, aircraft parking apron and aircraft tie-downs. No aircraft fueling or fuel storage is available on the Airport. The landside facilities available at Ajo Municipal Airport are depicted on **Exhibit 1B**

Fixed Base Operator (FBO)

Ajo Aircenter is the only business operating out of Ajo Municipal Airport. Located in the south T-hangar unit and occupying 3 hangars including an attached office, Ajo Aircenter provides aircraft inspections, modifications, and repairs. The owner/operator of Ajo Aircenter is the sole employee, and furthermore, acts as the airport operations manager for the County on a contract basis.

Aircraft Hangars

The Airport has two, 4-bay T-hangar buildings totaling approximately 9,100 square feet. Each bay holds one aircraft, and are leased by the County on a monthly basis. All of the bays are presently leased. County records currently show four people on the T-hangar waiting list.

Aircraft Parking Apron and Tie-downs

As previously noted, there are more than 85,000 square yards of aircraft parking apron available at the Airport. According to the *ADOT - Aviation Needs Technical Report, 1990*, only 23,880 square yards is suitable for aircraft usage. Additionally, with only 4-based aircraft, 3 of which are "hangared," little of the apron is utilized. The overall condition of the apron is fair, and would benefit greatly

from both repair and preventive maintenance. There are also 6 designated aircraft tie-down spots available on the ramp directly south of the T-hangars. Currently, there is no fee to park in these tie-down spots.

Airport Security

At present, the Airport has no formal security procedures. It is up to each individual hangar occupant to secure his unit when he is not onsite. Once the lone FBO (Ajo Aircenter) closes for the day, the Airport is neither manned nor patrolled regularly. Security fencing at the Airport consists mainly of cattle fencing and has several gaps along its perimeter. There are no true gated access points to speak of at Ajo Municipal Airport. A more detailed description of the Airport's security situation is presented in the **Airport Access** section (Page 3-16) of **Chapter Three**.

ADDITIONAL SUPPORT FACILITIES

Automobile Parking

There is no designated automobile parking lot at the Airport. Pilots and others using or visiting Ajo Municipal Airport, park their autos either south of the southern most T-hangar unit or on the apron area east of the same hangar unit.

Airport Emergency Response Ability

The Airport has no dedicated full time Aircraft Rescue and Fire Fighting (ARFF) facility or personnel at Ajo Municipal Airport. The nearest fire fighting entity is the Ajo-Gibson Volunteer Fire Department,

approximately 8 miles away. Their equipment and training is limited to the more conventional, non-aviation, type of emergency response.

SOCIOECONOMIC PROFILE

In developing an airport master plan several socioeconomic variables must be factored in. Information relating to a region's population, employment, and income are collected and analyzed to help determine and forecast future trends. Aviation forecasting is directly related to an area's population base, economic strength, and long range development plans.

Population

Increases in Arizona's population are the result of immigration from other states as well as Mexico. Approximately two-thirds of new state residents have moved to Arizona from elsewhere. With nearly 800,000 residents, Pima County is Arizona's second largest county. The County as a whole reflects Arizona's continued ranking as one the fastest growing states in the country. Ajo, however, with its historically based mining economy has experienced a significant population decrease since the closing of the Phelps Dodge open pit mine in April 1985. Since 1986, most

of the new residents of Ajo are retirees, having bought many of the nearly 900 houses once owned by Phelps Dodge. With the planned reopening of the mine scheduled for sometime between 2000 and 2003, Ajo should receive a significant boost to both population and the economy. What effect, if any, that current falling copper prices will have on the mine's reopening is unknown. Historical population data and projected growth estimates for Ajo, Pima County, and Arizona, as shown in **Table 1C, Population Trends**, were obtained from Arizona Department of Economic Security, Research Administration, Population Statistics Unit.

Employment

Presently, employment in Ajo focuses mainly in the tourist, service, and commercial sectors. Historical local employment statistics are presented in **Table 1D, Ajo Labor Force Data**.

Though slightly higher than the County, State, and national rates, Ajo's unemployment rate of 5.1 percent is still reflective of current economic trends. This rate should drop further with the 400 new jobs expected with the reopening of the Phelps Dodge open pit mine.

TABLE 1C
Population Trends
Population (1980-2025)

Year	Town of Ajo	Avg. Annual Growth Rate	Pima County	Avg. Annual Growth Rate	State of Arizona	Avg. Annual Growth Rate
1980	5,189	--	531,443	--	2,716,546	--
1990	2,919	-5.59%	666,880	2.30%	3,665,228	3.04%
1996	3,417	2.66%	780,750	2.66%	4,462,300	3.33%
FORECASTS						
2005	4,131 ¹	2.13%	943,800	2.13%	5,553,825	2.46%
2015	4,899 ¹	1.72%	1,119,350	1.72%	6,744,800	1.96%
2025	5,652 ¹	1.44%	1,291,000	1.44%	7,993,000	1.71%
Source: Arizona Department of Economic Security, Research Administration, Population Statistics Unit						
¹ Population forecast statistics for the Town of Ajo for the years indicated are unavailable, numbers shown were determined by comparison to Pima County forecasts for the same time periods.						

TABLE 1D
Ajo Labor Force Data

	1980	1990	1996
Civilian Labor Force	1,902	751	878
Employed	1,836	701	833
Unemployed	66	50	45
Unemployment Rate	3.5%	6.7%	5.1%
Source:: Arizona Department of Economic Security, June 1997			

Income

Per Capita Personal Income (PCPI) for Pima County, The State of Arizona, and the United States between 1985 and 1995 is shown in **Table 1E, Per Capita Income**.

In 1995, Pima County had a PCPI of \$19,485,

this figure represents 95 percent of Arizona's average and 84 percent of the national average (PCPI). The average annual growth rate for Pima County is comparable with both the State of Arizona, and the United States, as illustrated in **Table 1E**. Income statistics for Ajo were unavailable at this time.

TABLE 1E
Per Capita Personal Income (PCPI)
Pima County, State of Arizona, United States

	1985	1990	1995	Average Annual Growth Rate
Pima County ¹	\$12,569.00	\$15,631.00	\$19,485.00	4.48%
State of Arizona ²	\$13,220.00	\$16,542.00	\$20,489.00	4.48%
United States	\$14,155.00	\$19,142.00	\$23,208.00	5.07%

¹Source: BEA, Prepared by the University of Arizona, College of Business and Public Administration

²Source: BEA, REIS, Table SA2, September 1996

Prepared by Arizona Department of Economic Security, Economic Analysis, 1996

UTILITIES

The availability or presence of utilities at an airport is an important factor in determining future airport development. An inventory describing the existing utilities at Ajo Municipal Airport follows.

- The only water at the Airport is provided by a 450-gallon water tank owned and maintained by Ajo Aircenter. The Airport itself has no water distribution system. The closest water hookup on-airport is the neighboring Ajo Country Club. The Country Club and golf course sit on airport property and are leased by the County to the Country Club operator. As of this report, Phelps Dodge Corporation supplies water to the Country Club.
- Sanitary sewer is not available at the Airport. Airport restroom facilities are nonexistent.
- Storm drainage is controlled by a 4-foot high diversion levee south of Runway 30 that extends from the

Country Club east of the runway to the western Airport property line that parallels SH 85.

- Electricity is supplied through a single transformer (25 KVA, single phase, 2400/4160 volts) by Arizona Public Service (APS).
- Phone service to Ajo Aircenter is provided by Table Top Telephone, Inc. No public telephone is provided at the Airport
- Natural gas is not provided on-airport.
- Solid waste pickup and disposal is not provided at the Airport. The FBO and other airport users are presently responsible for removal of any solid waste they may generate.

SURROUNDING LAND USE

Other than the Ajo Country Club, which is located on airport property, the land immediately surrounding the Airport is undeveloped land covered by native desert

plant life. The Airport itself is in fact within the boundary of the Barry M. Goldwater Air Force Range which is under the direct jurisdiction of Luke Air Force Base. Preliminary land use and zoning maps provided by Pima County reveal that land uses adjacent to and beyond this boundary are subject to Pima County planning and zoning ordinances.

GROUND TRANSPORTATION NETWORK

As previously discussed, Ajo is located on SH 85, 10 miles northwest of the junction with SH 86 and 42 miles south of Interstate 8. Bus service to and from Ajo, and the Phoenix/Tucson areas is provided by a local company. No rail service is available to the community. A single local trucking company picks up and delivers most of the freight in and out of Ajo and the surrounding area.

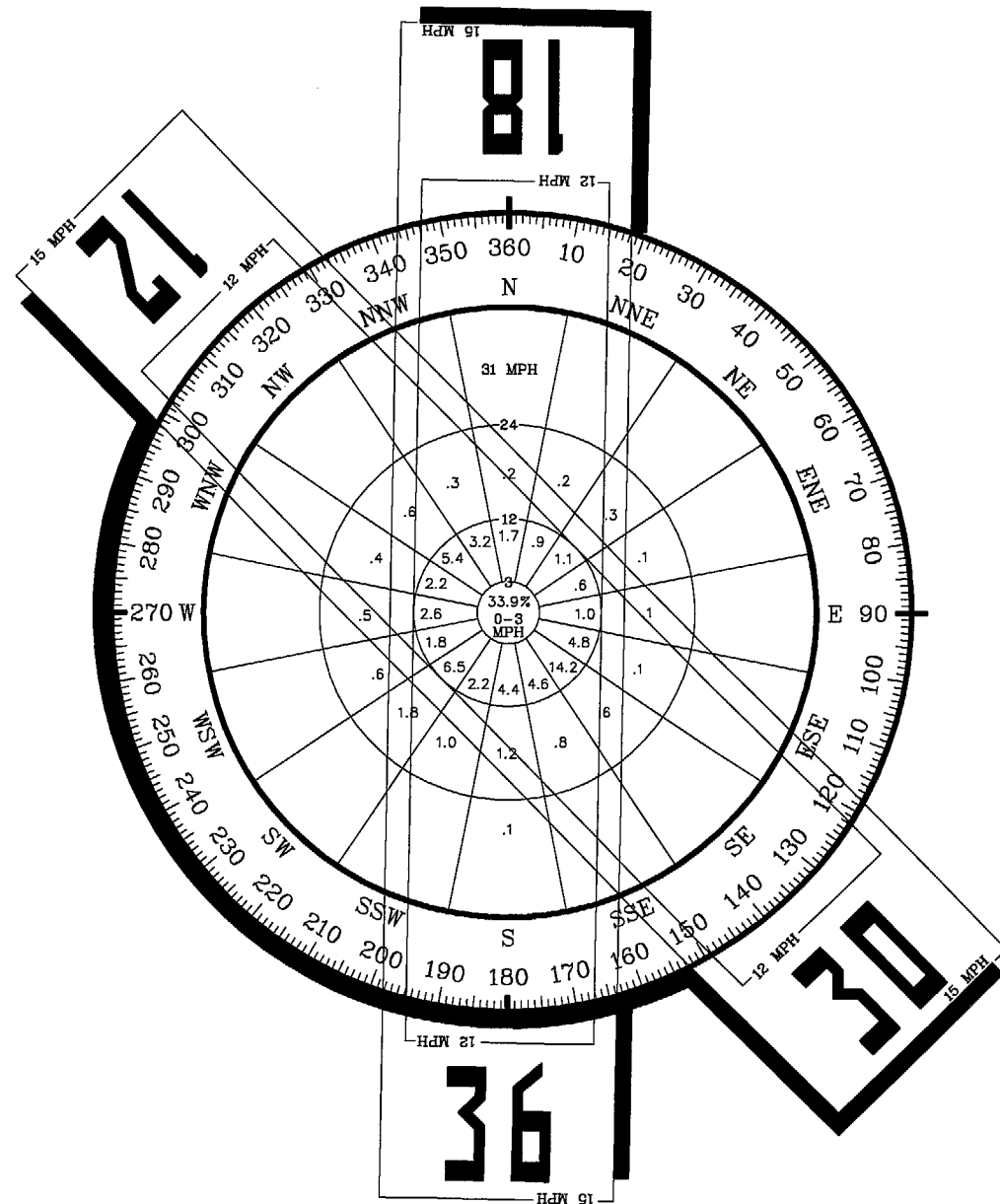
CLIMATE

Ajo enjoys splendid year-round weather. Its typical Sonoran desert climate, offering more than 300 days of sunshine, makes for ideal general aviation conditions. The annual precipitation is 8.95 inches, with over 40-percent of this coming in the summer months of July and August. The normal average daily temperatures for Ajo range from a high

of 103.2 degrees (F) in July to a low of 42.7 degrees (F) in December. Prevailing winds at Ajo Municipal Airport are from the southwest. As is typical with much of southwestern Arizona, light early morning breezes increase slightly throughout the afternoon while mostly calm winds prevail from sunset to sunrise. During periods of thunderstorm activity, however, wind speeds greater than 50 miles per hour are not uncommon. The **Comparative Wind Roses, Exhibit 1E**, was constructed from data compiled at Ajo Army Air Field by the Army Air Corps from 1942 to 1946. Normally, the FAA requires ten years of observation data when recognizing an airport's wind rose, however, no other data is presently available.

SUMMARY

The information discussed in this chapter provides a foundation from which the remaining elements of the master plan can be constructed. This inventory information on the current facilities at Ajo Municipal Airport will be the basis, along with additional analysis and data collection, for developing forecasts of aviation activity and defining future facility requirements. This chapter also provides the proper perspective from which to develop a feasible master plan that serves the aviation needs of both Ajo and Western Pima County.



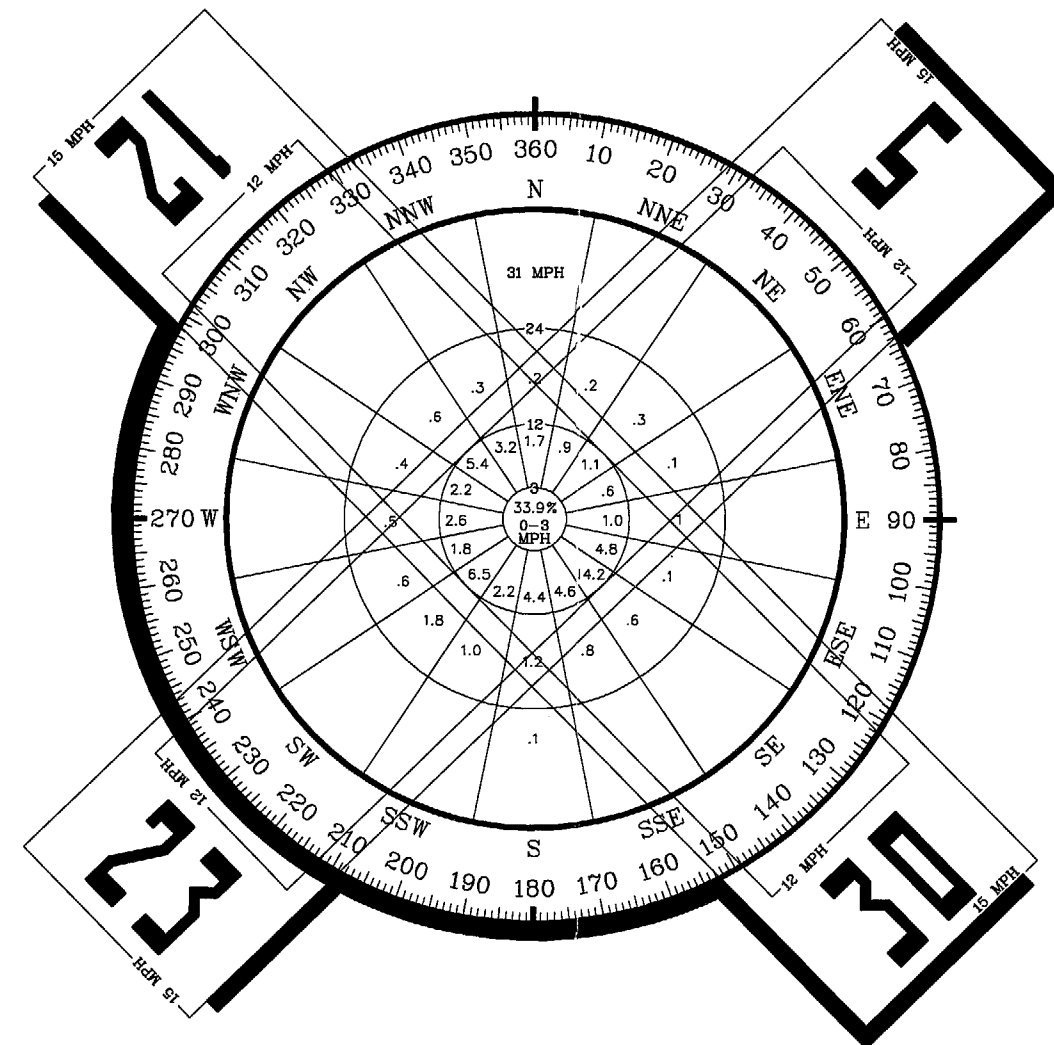
WIND DATA		
	12 MPH (10.5 Knots)	15 MPH (13 Knots)
Runway 12-30	94.90%	96.50%
Runway 18-36	96.50%	97.30%
Combined Coverage	98.10%	98.75%

Note: Runways 5-23 and 18-36 are presently closed and are shown only to illustrate potential future crosswind runway coverage configurations.

SOURCE:
NOAA National Climatic Center
Asheville, N.C.

DATA STATION:
AJO ARMY AIR FIELD
Ajo, Arizona
Jan. 1942 - Jan. 1946

Number of Observations:
Unknown



WIND DATA		
	12 MPH (10.5 Knots)	15 MPH (13 Knots)
Runway 12-30	94.90%	96.50%
Runway 5-23	96.65%	97.05%
Combined Coverage	99.44%	99.85%

